

REMARKS

In the Office Action, the Examiner objected to claims 8-14 and 18-19 under 37 CFR § 1.75(c) as being in improper multiple dependent form; and rejected claims 1-7, 15-17, and 20 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,177,013 to Thomas et al. (Thomas) in view of U.S. Patent No. 5,840,190 to Scholander et al. (Scholander).

Applicants have attached an official copy of the French foreign priority document No. 00/01065 for the Examiner's consideration.

Applicants further note that an Information Disclosure Statement was timely filed in this case on September 27, 2001, and a Supplemental Information Disclosure Statement was timely filed on July 12, 2002. In this Office Action, the Examiner did not initial and return copies of the PTO 1449 Forms filed with those Information Disclosure Statements. Applicants respectfully request that the Examiner consider the previously-filed Information Disclosure Statements and return the initialed PTO 1449 Forms.

Claims 1-20 are pending in this application. By this Reply, claims 1-20 are amended. Prompt examination and allowance of this application are respectfully requested.

In the Office Action, the Examiner objected to claims 8-14 and 18-19, under 37 C.F.R § 1.75(c), as being in improper multiple dependent form. Applicants have amended claims 5, 8, and 9 to depend from claim 1, thereby removing the improper multiple dependencies of claims 8-14. Further, Applicants have amended claim 17 to depend from independent claim 15, thereby removing the improper multiple dependencies of claims 18 and 19. Accordingly, Applicants request that the objection to claims 8-14 and 18-19 be withdrawn.

Applicants respectfully traverse the Examiner's rejection of claims 1-7, 15-17, and 20, under 35 U.S.C. § 103(a) as being unpatentable over Thomas in view of Scholander.

Claims 1 and 15 are not obvious over Thomas and Scholander because neither reference teaches or suggests the claimed membrane or method including "a membrane...of a polyacrylonitrile carrying anionic or anionizable groups...coated...with a cationic polymer...capable of forming an ionic bond with...the polyacrylonitrile, the cationic polymer comprising chains whose size is sufficient for the chains not to pass through the semi-permeable membrane." (Emphasis Added).

The Examiner argues that Thomas discloses a "composite semipermeable membrane comprising a copolymer of polyacrylonitrile and of sodium methallyl sulphonate and 4 mg/m² polyethyleneimine bonded thereto" and a method for making such a membrane. (Office Action at page 2). While Thomas teaches the bonding of a neutral or cationic polymer to a membrane, Thomas fails to teach the use of a surface treating cationic polymer with "chains whose size is sufficient for them not to pass through the semi-permeable membrane." Moreover, Applicants respectfully note that the Office Action does not address this limitation and thus claims 1 and 15 are allowable at least for this reason.

Furthermore, the Examiner acknowledges that claim 1, for example, differs "from the method and membrane of Thomas et al. in reciting an anticoagulant carrying anionic groups such as heparin to form ionic bond with the cationic groups of the cationic polymer." Nevertheless, the Examiner contends that Scholander discloses "a positively charged surface [that] is provided by polyethyleneimine," to which "heparin or other

negatively charged bioactive compounds are immobilized...by ionic attachment.” (Office Action at page 2). Scholander, however, further discloses “preparing polymer surface modified biocompatible membranes with functional groups incorporated into the membrane material...where the **incorporation** of the **surface modifying polymer** takes place **during** formation of the membranes.” (Col. 4, ll. 1-7) (Emphasis added). Claims 1 and 15, however, recite “coat[ing]” the membrane with “a cationic polymer.” Accordingly, Scholander, teaches away from Applicants’ claimed membrane in which the cationic polymer is coated onto the surface of the membrane after its formation. Further, Scholander teaches away from the limitation in claims 1 and 15 that the “cationic polymer compris[es] chains whose size is sufficient for them not to pass through the semi-permeable membrane.” Rather, Scholander teaches that the polymer is “incorporate[ed]” into the membrane. Thus, neither reference teaches both “a membrane...of a polyacrylonitrile carrying anionic or anionizable groups...coated...with a cationic polymer...capable of forming an ionic bond with...the polyacrylonitrile” and “the cationic polymer comprising chains whose size is sufficient for the chains not to pass through the semi-permeable membrane,” as recited in claims 1 and 15.

Claims 1 and 15, therefore, are allowable over the Examiner’s proposed combination of Scholander and Thomas, and claims 2-14 and 16-20 are allowable at least due to their dependence from claims 1 and 15.


In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: September 24, 2004

By: 
Aaron L. Parker
Reg. No. 50,785

Attachments: (1) An Official Copy of the French Foreign
Priority Document No. 00/01065